

Reply to Office Action dated March 21, 2007

REMARKS

Claims 1-2, 4-7, 9, 15-18 and 20-26 are pending in this application. By this Amendment, the specification and claims 1, 4-6, 9, 11-13, 16-18, 20 and 25 are amended and claims 3, 8, 10, 14 and 19 are canceled without prejudice or disclaimer. Various amendments are made for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1-6, 8-12, 14-23 and 25-26 under 35 U.S.C. §102(b) by U.S. Patent 6,567,475 to Dent et al. (hereafter Dent). The Office Action also rejects claims 7, 13 and 24 under 35 U.S.C. §103(a) over Dent in view of U.S. Patent 6,947,490 to Edwards et al. (hereafter Edwards). The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a mobile station modem (MSM) for judging a modulation method according to a data rate of a received signal and a position of a data pointer, and a controller for controlling a control signal with respect to a position change of the data pointer based on information collected by the MSM. Independent claim 1 also recites a demodulator for determining a new position of the data pointer according to the control signal outputted from the controller and for demodulating the signal, wherein the controller controls intervals between data pointers according to the data rate of the received signal.

Dent does not teach or suggest at least these features of independent claim 1. More specifically, Dent does not relate to controlling a control signal with respect to a position change of the data pointer based on information collected by the MSM. Dent does not disclose features relating to a position change of a data pointer. Additionally, Dent does not teach or suggest determining a new position of the data pointer according to the control signal. Still further, Dent

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does not suggest that the controller controls intervals between data pointers according to the read data of the received signal.

The Office Action's citation to Dent's col. 11, line 40-col. 13, line 47 does not suggest determining a new position of a data pointer and controlling intervals between data pointers according to the data rate of the received signal. Further, FIGs. 4a-4b cited in the Office Action merely show progressive rotation of a QPSK chart for three consecutive symbols ($i, i+1, i+2$) and an 8-PSK chart for three consecutive symbols ($i, i+1, i+2$). See col. 5, lines 47-55. This does not suggest the claimed features. Also FIGs. 4A-4B do not suggest controlling intervals according to the data rate of the received signals.

Accordingly, Dent does not teach or suggest all the features of independent claim 1. Edwards does not teach or suggest the features of independent claim 1 missing from Dent. Thus, independent claim 1 defines patentable subject matter.

Independent claim 5 recites a controller for generating a control signal for changing a position of a data pointer according to the data rate of a received signal, wherein the controller changes the position of the data pointer such that an interval between inner data pointers and outer data pointers is greater than an interval between a center and the inner data pointers. Independent claim 5 also recites a demodulator for demodulating an output signal of the frequency mixer according to the control signal.

For at least similar reasons as set forth above, Dent does not teach or suggest at least these features of independent claim 5. More specifically, Dent does not relate to generating a control signal for changing a position of a data pointer according to the data rate of a received

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signal. Dent also does not suggest that the controller changes the position of the data pointer such that an interval between inner data pointers and outer data pointers is greater than an interval between a center and the inner data pointers. Dent does not discuss intervals and/or inner data pointers and outer data pointers. Thus, Dent does not teach or suggest all the features of independent claim 5. Edwards does not teach or suggest the features of independent claim 5 missing from Dent. Independent claim 5 therefore defines patentable subject matter.

Independent claim 9 recites judging a data modulation method of a received signal, and changing an interval between data pointers of the corresponding data modulation method, wherein the data modulation method is varied according to a data rate of the received signal.

For at least similar reasons as set forth above, Dent does not teach or suggest at least these features of independent claim 9. That is, Dent does not relate to changing an interval between data pointers of the corresponding data modulation method. Dent also does not relate to varying a data modulation method according to a data rate of a received signal. As such, Dent does not teach or suggest all the features of independent claim 9. Edwards does not teach or suggest the features of independent claim 9 missing from Dent. Independent claim 9 therefore defines patentable subject matter.

Independent claim 12 recites judging a data rate, determining a data modulation method, controlling a position interval of each data pointer of the corresponding data modulating method, wherein, in controlling the position interval of each of the data pointers, the interval between inner data pointers and outer data pointers is greater from corresponding positions of a

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basic data pointer, and changing and determining a position of a data pointer according to a control signal.

For at least similar reasons as set forth above, Dent does not teach or suggest at least these features of independent claim 12. That is, Dent does not teach or suggest that, in controlling the position interval of each of the data pointers, the interval between inner data pointers and outer data pointers is greater from corresponding positions of a basic data pointer. Further, Dent does not relate to changing and determining a position of a data pointer according to a control signal. As such, Dent does not teach or suggest all the features of independent claim 12. Edwards does not teach or suggest the features of independent claim 12 missing from Dent. Independent claim 12 therefore defines patentable subject matter.

Independent claim 15 recites controlling to change a position of an outer data pointer from a position of a basic data pointer, and demodulating the received signal centering around a changed data pointer.

For at least similar reasons as set forth above, Dent does not teach or suggest at least these features of independent claim 15. That is, Dent does not relate to controlling to change a position of an outer data pointer from a position of a basic data pointer. Dent does not suggest changing a position of an outer data pointer. As such, Dent does not teach or suggest all the features of independent claim 15. Edwards does not teach or suggest the features of independent claim 15 missing from Dent. Independent claim 15 therefore defines patentable subject matter.

Independent claim 17 recites a judging device configured to judge a modulation format according to a data rate of a received signal and a data location, wherein the data location is at a

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predetermined distance with respect to an I/Q axis. Independent claim 17 also recites a controller configured to generate a control signal with respect to a position change of the data location on the basis of the modulation method and the data rate, wherein the controller differs intervals between data locations according to the data rate of the received signal, and a demodulator configured to determine the data location according to the control signal outputted from the controller and to demodulate the received signal.

For at least similar reasons as set forth above, Dent does not teach or suggest at least these features of independent claim 17. That is, Dent does not relate to a controller configured to generate a control signal with respect to a position change of the data location on the basis of the modulation method and the data rate. Dent also does not suggest that the controller differs intervals between data locations according to the data rate of the received signal. As such, Dent does not teach or suggest all the features of independent claim 17. Edwards does not teach or suggest the features of independent claim 17 missing from Dent. Independent claim 17 therefore defines patentable subject matter.

Accordingly, each of independent claims 1, 5, 9, 12, 15 and 17 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-2, 4-7, 9, 15-18 and

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20-26 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,



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